

CLAIMS

1. A content distribution system having a base station that uses a predetermined type of a communication channel to
5 distribute content as its communication data to a mobile station, wherein

said base station includes channel switching determination means configured to determine whether the type of the communication channel sent from said base station to said
10 mobile station is switched based on the power for the distribution of the content to the mobile station.

2. The content distribution system according to claim 1, wherein

15 said channel switching determination means is configured to determine whether the communication channel is switched from a first communication channel that is being used for the distribution to a second channel whose type is different from that of the first communication channel based on the downlink
20 transmission power of the first communication channel and the downlink transmission power of the second communication channel in the case where the second communication channel is used for the distribution.

25 3. The content distribution system according to claim 2, wherein

said channel switching determination means is configured to determine that the communication channel is switched from the first communication channel to the second communication
30 channel in the case where the downlink transmission power of the second communication channel is less than the downlink transmission power of the first communication channel.

4. The content distribution system according to claims 2 or 3, wherein

said channel switching determination means includes means for switching the communication channel from the first
5 communication channel to the second communication channel when determining to perform the channel switching from the first communication channel to second communication channel such that the total of the downlink transmission power of the base station during the channel switching from the first to second
10 communication channel does not exceed the upper limit.

5. The content distribution system according to claim 4, wherein

said first communication channel is an individual channel
15 that is individually assigned to said mobile station,

said second communication channel is a common channel that is commonly assigned to said mobile station, and

said channel switching control means is configured to sequentially perform the channel switching for the individual
20 channel in the ascending order in terms of the transmission power thereof to complete the channel switching from the individual channel to the common channel.

6. The content distribution system according to claim 25 4, wherein

said first communication channel is a common channel that is commonly assigned to said mobile station,

said second communication channel is an individual channel that is individually assigned to said mobile station, and

30 said channel switching control means is configured to sequentially assign the individual channel to said mobile station in the descending order in terms of the downlink transmission power of the individual channel through which said mobile station

receives the content in the case where the individual channel is used for the distribution, to complete the channel switching from the common channel to the individual channel.

5 7. The content distribution system according to any one of claims 1 to 6, wherein

 said channel switching determination means is configured to determine whether to switch the type of the communication channel from said base station to said mobile station in response
10 to a change in the number of the mobile station.

 8. The content distribution system according to any one of claims 1 to 6, wherein

 said channel switching determination means is configured
15 to determine whether to switch the type of the communication channel from the base station to the mobile station in response to a change in the allowable number of the stations that receive a service of distributing the content.

20 9. The content distribution system according to any one of claims 1 to 6, wherein

 said channel switching determination means is configured to determine whether to switch the type of the communication channel from said base station to said mobile station in response
25 to a change in the allowable number of the stations that receive services other than that of distributing the content.

 10. The content distribution system according to any one of claims 1 to 9, wherein

30 said switching of the type of the communication channel sent from said base station to said mobile station is performed in the service of distributing the content.

11. A channel switching control method of a content distribution system having a base station that uses a predetermined type of a communication channel to distribute content as its communication data to a mobile station, said method
5 comprising

a channel switching determination step of determining whether the type of the communication channel sent from said base station to said mobile station is switched based on the power for content distribution to the mobile station.

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12. The channel switching control method according to claim 11, wherein

in said channel switching determination step, it is determined whether the communication channel is switched from
15 a first communication channel that is being used for the distribution to a second communication channel whose type is different from that of the first communication channel based on the downlink transmission power of the first communication channel and the downlink transmission power of the second
20 communication channel in the case where the second communication channel is used for the distribution.

13. The channel switching control method according to claim 12, wherein

25 in said channel switching determination step, it is determined that the communication channel is switched from the first communication channel to the second communication channel in the case where the downlink transmission power of the second communication channel is less than the downlink transmission
30 power of the first communication channel.

14. The channel switching control method according to claims 12 or 13, wherein

said channel switching determination step comprises a channel switching control step of switching the communication channel from the first communication channel to the second communication channel such that the total of the downlink transmission power of the base station during the channel switching from the first to second communication channel does not exceed the upper limit in the case where it is determined to perform the channel switching from the first communication channel to the second communication channel.

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15. The channel switching control method according to claim 14, wherein

said first communication channel is an individual channel that is individually assigned to said mobile station,

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said second communication channel is a common channel that is commonly assigned to said mobile station, and

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in said channel switching control step, the channel switching is sequentially performed for the individual channel in the ascending order in terms of the downlink transmission power thereof to complete the channel switching from the individual channel to the common channel.

16. The channel switching control method according to claim 14, wherein

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said first communication channel is a common channel that is commonly assigned to said mobile station,

said second communication channel is an individual channel that is individually assigned to said mobile station, and

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in said channel switching control step, the individual channel is sequentially assigned to said mobile station in the descending order in terms of the downlink transmission power of the individual channel through which said mobile station receives the content in the case where the individual channel

is used for the distribution, to complete the channel switching from the common channel to the individual channel.

17. The channel switching control method according to
5 any one of claims 11 to 16, wherein

in said channel switching determination step, it is determined whether to switch the type of the communication channel from said base station to said mobile station in response to a change in the number of said mobile station.

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18. The channel switching control method according to any one of claims 11 to 16, wherein

in said channel switching determination step, it is determined whether to switch the type of the communication
15 channel from said base station to said mobile station in response to a change in the allowable number of the stations that receive a service of distributing the content.

19. The channel switching control method according to
20 any one of claims 11 to 16, wherein

in the channel switching determination step, it is determined whether to switch the type of the communication channel from the base station to the mobile station in response to a change in the allowable number of the stations that receive
25 mobile communication services other than that of distributing the content.

20. The channel switching control method according to any one of claims 11 to 19, wherein

30 said switching of the type of the communication channel sent from the base station to the mobile station is performed in the service of distributing the content.

21. A network having a base station that uses a predetermined type of a communication channel to distribute content as its communication data to a mobile station, said network comprising

5 channel switching determination means configured to determine whether the type of the communication channel sent from said base station to said mobile station is switched based on the power for content distribution to said mobile station.

10 22. The network according to claim 21, further comprising a base station control station that controls said base station, wherein

 said channel switching determination means is configured to determine whether the communication channel is switched from
15 a first communication channel that is being used for the distribution to a second communication channel whose type is different from that of the first communication channel based on the downlink transmission power of the first communication channel and the downlink transmission power of the second
20 communication channel in the case where the second communication channel is set between the base station and mobile station under the control of the base station control station and used for the distribution.

25 23. The network according to claim 22, wherein

 said channel switching determination means is configured to determine that the communication channel is switched from the first communication channel to the second communication channel in the case where the downlink transmission power of
30 the second communication channel is less than the downlink transmission power of the first communication channel.

24. The network according to claims 22 or 23, wherein

in the case where said channel switching determination means determines to perform the channel switching from the first communication channel to the second communication channel, said base station control station is configured to control the base station to switch the communication channel from the first communication channel to the second communication channel such that the total of the downlink transmission power of said base station during the channel switching from the first to second communication channel does not exceed the upper limit.

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25. The network according to claim 24, wherein said first communication channel is an individual channel that is individually assigned to said mobile station, said second communication channel is a common channel that is commonly assigned to said mobile station, and

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said base station control station is configured to sequentially perform the channel switching for the individual channel in the ascending order in terms of the downlink transmission power thereof to complete the channel switching from the individual channel to the common channel.

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26. The network according to claim 24, wherein said first communication channel is a common channel that is commonly assigned to said mobile station,

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said second communication channel is an individual channel that is individually assigned to said mobile station, and

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said base station control station is configured to sequentially assign the individual channel to the mobile station in the descending order in terms of the downlink transmission power of the individual channel through which said mobile station receives the content in the case where the individual channel is used for the distribution, to complete the channel switching from the common channel to the individual channel.

27. The network according to any one of claims 21 to 26,
wherein

5 said channel switching determination means is configured
to determine whether to switch the type of the communication
channel from said base station to said mobile station in response
to a change in the number of the mobile station.

28. The network according to any one of claims 21 to 26,
10 wherein

said channel switching determination means is configured
to determine whether to switch the type of the communication
channel from said base station to said mobile station in response
to a change in the allowable number of the stations that receive
15 a service of distributing the content.

29. The network according to any one of claims 21 to 26,
wherein

20 said channel switching determination means is configured
to determine whether to switch the type of the communication
channel from said base station to said mobile station in response
to a change in the allowable number of the stations that receive
mobile communication services other than that of distributing
the content.

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30. The network according to any one of claims 21 to 29,
wherein

said switching of the type of the communication channel
sent from said base station to said mobile station is performed
30 in the service of distributing the content.

31. A channel switching control method of a network having
a base station that uses a predetermined type of a communication

channel to distribute content as its communication data to a mobile station, said method comprising

determining whether the type of the communication channel sent from the base station to the mobile station is switched
5 based on the power for content distribution to the mobile station.

32. The channel switching control method according to claim 31, wherein

said network includes a base station control station that
10 controls said base station, and

it is determined whether the communication channel is switched from a first communication channel that is being used for the distribution to a second communication channel whose type is different from that of the first communication channel
15 based on the downlink transmission power of the first communication channel and the downlink transmission power of the second communication channel in the case where the second communication channel has been set between the base station and the mobile station under the control of the base station control
20 station and used for the distribution.

33. The channel switching control method according to claim 32, wherein

it is determined that the communication channel is switched
25 from the first communication channel to the second communication channel in the case where the downlink transmission power of the second communication channel is less than the downlink transmission power of the first communication channel.

30 34. The channel switching control method according to claims 32 or 33, wherein

in the case where it is determined to perform the channel switching from the first communication channel to second

communication channel, said base station control station controls the base station to switch the communication channel from the first communication channel to the second communication channel such that the total of the downlink transmission power of the base station during the channel switching from the first to second communication channel does not exceed the upper limit.

35. The channel switching control method according to claim 34, wherein

10 said first communication channel is an individual channel that is individually assigned to said mobile station, said second communication channel is a common channel that is commonly assigned to said mobile station, and said base station control station sequentially performs
15 the channel switching for the individual channel in the ascending order in terms of the downlink transmission power thereof to complete the channel switching from the individual channel to the common channel.

20 36. The channel switching control method according to claim 34, wherein

 said first communication channel is a common channel that is commonly assigned to said mobile station, said second communication channel is an individual channel
25 that is individually assigned to said mobile station, and said base station control station sequentially assigns the individual channel to the mobile station in the descending order in terms of the downlink transmission power of the individual channel through which the mobile station receives
30 the content in the case where the individual channel is used for the distribution, to complete the channel switching from the common channel to the individual channel.

37. The channel switching control method according to any of claims 31 to 36, wherein

5 it is determined whether to switch the type of the communication channel from said base station to said mobile station in response to a change in the number of said mobile station.

38. The channel switching control method according to any one of claims 31 to 36, wherein

10 it is determined whether to switch the type of the communication channel from said base station to said mobile station in response to a change in the allowable number of the stations that receive a service of distributing the content.

15 39. The channel switching control method according to any one of claims 31 to 36, wherein

it is determined whether to switch the type of the communication channel from said base station to said mobile station in response to a change in the allowable number of the
20 stations that receive mobile communication services other than that of distributing the content.

40. The channel switching control method according to any one of claims 31 to 39, wherein

25 said switching of the type of the communication channel sent from said base station to said mobile station is performed in the service of distributing the content.